



M e m o r a n d u m

Date: 10/7/2011
To: Richard Labinsky, P.E.
Cc: Darren Badore, Miller Legg
From: Eric S. Czerniejewski, P.E.
Re: **Hallandale Beach Blvd Corridor- Ne 8th Avenue and NE 10th Avenue Traffic Signal Modifications**

Please reference the below table that summarizes the results of the additional traffic analysis based on the updated traffic counts from June of 2011. The below tables provide a matrix which provides a summary of the net operational change existing conditions and proposed conditions (with restricted movements at NE 8th Avenue and NE 10th Avenue) per each scenario.

The first scenario that was contemplated was elimination of the northbound through movement at NE 10th Avenue by changing the signal phase and restriping. The vehicles making a northbound through were redistributed to NE 12th Avenue where they made a u-turn and subsequently turned right at NE 10th Avenue. The results of this scenario can be found in the below table:

ARTERIAL:		HALLANDALE BEACH BLVD		BETWEEN US-1 AND THREE ISLANDS BLVD.							
SCENARIO:		EXISTING CONDITIONS VERSUS ELIMINATING NB THROUGH MOVEMENT AT NE 10TH AVENUE									
TIME PERIOD	ROAD SEGMENT	VOLUME	TOTAL TRAVEL TIME (sec) PERCENT				DELAY (sec) PERCENT				
			Before	After	Change	Improve	Before	After	Change	Improve	
AM Peak	US-1 to THREE ISLANDS	2937	407	406	1	0.24%	245	244	1	0.41%	
EASTBOUND											
AM Peak	US-1 to THREE ISLANDS	2937	653	653	0	0.00%	481	481	0	0.00%	
WESTBOUND											
PM Peak	US-1 to THREE ISLANDS	3726	591	590	1	0.17%	429	428	1	0.23%	
EASTBOUND											
PM Peak	US-1 to THREE ISLANDS	3726	824	824	0	0.00%	652	652	0	0.00%	
WESTBOUND											

The second scenario that was contemplated was elimination of the southbound and northbound left turn movements at NE 8th Avenue leaving a westbound left for Sage Plaza. The vehicles making a northbound left turn were redistributed to NE 10th Avenue where they made a u-turn and then continued west on Hallandale Beach Boulevard. The vehicles making a southbound left turn were redistributed to US-1 where they made a u-turn and then continued east on Hallandale Beach Boulevard. The results of this scenario can be found in the below table:

ARTERIAL:		HALLANDALE BEACH BLVD		BETWEEN US-1 AND THREE ISLANDS BLVD.							
SCENARIO:		EXISTING CONDITIONS VERSUS ELIMINATING NBL AND SBL MOVEMENTS AT NE 8TH AVENUE									
TIME PERIOD	ROAD SEGMENT	VOLUME	TOTAL TRAVEL TIME (sec) PERCENT				DELAY (sec) PERCENT				
			Before	After	Change	Improve	Before	After	Change	Improve	
AM Peak	US-1 to THREE ISLANDS	2937	407	392	15	3.70%	245	230	15	6.10%	
EASTBOUND											
AM Peak	US-1 to THREE ISLANDS	2937	653	638	15	2.30%	481	466	15	3.10%	
WESTBOUND											
PM Peak	US-1 to THREE ISLANDS	3726	591	501	90	15.20%	429	339	90	21.00%	
EASTBOUND											
PM Peak	US-1 to THREE ISLANDS	3726	824	746	78	9.50%	652	574	78	12.00%	
WESTBOUND											

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The third scenario that was contemplated was elimination of the traffic signal control at NE 8th Avenue. This would change the intersection from a signalized intersection to a stop control intersection. The southbound and northbound movements would be controlled by stop signs in lieu of the signals. The results of this scenario can be found in the below table:

ARTERIAL: HALLANDALE BEACH BLVD BETWEEN US-1 AND THREE ISLANDS BLVD.										
SCENARIO: EXISTING CONDITIONS VERSUS ELIMINATING SIGNAL AT NE 8TH AVENUE										
TIME PERIOD	ROAD SEGMENT	VOLUME	TOTAL TRAVEL TIME (sec) PERCENT				DELAY (sec) PERCENT			
			Before	After	Change	Improve	Before	After	Change	Improve
AM Peak	US-1 to THREE ISLANDS	2937	407	341	66	16.20%	245	183	62	25.30%
EASTBOUND			Before	After	Change	Improve	Before	After	Change	Improve
AM Peak	US-1 to THREE ISLANDS	2937	653	579	74	11.30%	481	410	71	14.80%
WESTBOUND			Before	After	Change	Improve	Before	After	Change	Improve
TIME PERIOD	ROAD SEGMENT	VOLUME	TOTAL TRAVEL TIME (sec) PERCENT				DELAY (sec) PERCENT			
			Before	After	Change	Improve	Before	After	Change	Improve
PM Peak	US-1 to THREE ISLANDS	3726	591	398	193	32.70%	429	240	189	44.00%
EASTBOUND			Before	After	Change	Improve	Before	After	Change	Improve
PM Peak	US-1 to THREE ISLANDS	3726	824	640	184	22.30%	652	472	180	27.60%
WESTBOUND			Before	After	Change	Improve	Before	After	Change	Improve

As reflected in the above tables, eliminating the traffic signal at NE 8th Avenue (Scenario 3) improves the delay and travel time along Hallandale Beach Boulevard by the highest percentage. Restricting the movements at NE 8th Avenue (Scenario 2) also improves the delay and travel time along Hallandale Beach Boulevard but to a lesser extent. Finally there is minimal improvement to the delay and travel time along the Hallandale Beach Boulevard corridor by eliminating the NB through movements at NE 10th Avenue (Scenario 1). FDOT and BCTED will ultimately make the decision if certain traffic operational changes have enough benefit along the corridor in order to implement.

